Dependent development in South America: China and the soybean nexus.

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Abstract

This article examines the expansion of the soybean complex in South America and the role of Chinese firms in expanding their presence in different sectors of the oilseed complex. The growth in trade relations between the two parties has been built on the export of primary commodities from South America and the import of Chinese manufactures – a trade pattern that reproduces core-periphery dynamics identified by dependency theory scholars. Of particular importance in this bilateral trade is soybean, a crop that has been consolidated as the main export for several South American countries, fuelled by growing demand from China. This article explores China's role in the global political economy as a key agri-business player and the implications for new relations of dependency by studying the strategies deployed by Chinese firms to increase their influence in the governance of the soybean nexus.

Keywords: China; Latin America; dependency; commodities; trade; agribusiness; sino-latinoamerican relations.

INTRODUCTION

In its 2016 Policy Paper, the Chinese Ministry of Foreign Affairs emphasised that the relationship between countries of Latin America and the Caribbean and the People's Republic of China (from now on, China) is based on a 'comprehensive and cooperative partnership of equality, mutual benefit and common development' (Ministry of Foreign Affairs of People's Republic of China 2016). This document confirmed in writing what was already apparent, namely the increasing importance the region has for China. This was further evidenced by the two state visits to Latin America by President Hu Jintao in 2004 and 2008, the two visits by President Xi Jinping in 2014 and 2016 (the latter visit establishing the China-CELAC (Community of Latin American and Caribbean States) Forum), and the recent state visit to Argentina and Panama during the 2018 G20 Summit. After decades of limited connections, China seems to have begun a new phase of 'overt courting' with the region and fostering increasingly extensive economic ties (Piccone 2016: 1).

China's expanding presence in Latin America has been the subject of much discussion in Latin American academia and media. The growing role of China in the region raises many questions. Is China an alternative, anti-imperialist partner (McKay et al. 2016a)? Are we witnessing the emergence of a 'Beijing consensus' that may replace the 'Washington consensus' (Slipak 2014)? Is China producing new relations of dependency (Jenkins 2012)? The nature and volume of trade relations between China and Latin America support this core-periphery characterisation. However, dependency theory can help us see beyond the trade balance and understand how China's emergence as the driver of demand for agricultural

commodities and its efforts to ensure supply have created dependent development in South America, not only in terms of trade deficits or absolute gains, but in limiting the region's capacity to autonomously determine its development path. This article highlights the growing participation of Chinese firms and investments in different sectors of the soybean complex, and their role in reproducing the satellization of South American economies and deepening dependency by limiting the capacity for the region's autonomous development.

Analyses of contemporary China-Latin America relations through the lens of dependency theory have mainly focused on exchange statistics, that is, on the composition and volume of trade balances. While this offers important insights into the general nature of this relationship, these accounts rely on a conception of dependency that is closely linked to structuralist analyses and focus largely on the balance and the composition of trade, namely, the manufactures for primary resources dynamic. Such approaches overlook how China has attempted not just to create uneven exchange relations with South America, but also extend its control over segments of the markets that connect these economies. A focus on the struggles to govern different stages of production can offer a more in-depth understanding of the mechanisms of dependency that characterise the contemporary global order. The core-periphery dynamic that results is not just one created by asymmetries in exchange, but in the capacity and autonomy of the periphery to define its own terms of development.

This article focuses on the case of soybean to analyse these new modalities of economic relations between China and Latin America. The production and trade of soybean is the fastest growing economic activity in some of the largest countries in South America, such as Argentina and Brazil, and it makes up the biggest component of their agricultural exports to China. As of 2016, 48% of soybeans and soybean by-products (cake and oil) are exported to China, 25% to the European Union (FAOSTAT, 2017), and the rest chiefly to South East Asia. As such, soybean exports to China have become a crucial source of profit, foreign exchange reserves, and overall economic growth for the region. Several authors have dubbed this the 'soybean connection' or 'soybean nexus' (Turzi, 2017; Wilkinson et al., 2016), indicating the centrality of the commodity for understanding this international relationship. Concurrently, soybean has become a crucial food commodity for the Chinese economy, functioning as animal feed for a livestock industry that serves a growing population with improving food preferences. Even more importantly, the uninterrupted supply of agricultural goods is a top priority for the Chinese government, as the risk of social turmoil linked to food insecurity is taken extremely seriously by Beijing (Freeman, Hoslag and Weil, 2008; Zha and Zhang, 2013). However, it is precisely this undisturbed access to soybean that was threatened by the 2004 'Battle of the Beans', during which Chinese soybean processing companies suffered huge financial losses due to price fluctuations on the Chicago Board of Trade (CBOT), and were subsequently taken over by large agribusiness traders. This article argues that China responded to this crisis by seeking to ensure access to different levels of the soybean value chain, through four key strategies: (a) land purchases for soybean production; (b) corporate take-overs; (c) infrastructure investments, and (d) control of biotechnological innovations.

This article employs qualitative research methods, namely the analysis of data collected through over 50 elite interviews in Argentina, Brazil, and Paraguay, as well as newspaper articles and public reports, secondary data, and descriptive statistics. The interviewees belonged to three groups: former and current civil servants and cabinet members from different

Ministries in charge of policies linked to the agricultural sector; academics and experts on agricultural trade; and members of unions or associations of agricultural production and employees or officials from agribusiness companies, both domestic and transnational. The fieldwork's focus on South America provides a revealing but partial perspective into the nature of Chinese involvement in this region through the soybean chain. Future research on this issue would require further fieldwork interviews in China in order to provide more insight into the link between policy decisions and business strategies in the soybean market.[1] The paper is organised as follows: it will first give an overview of the China-Latin America relationship and how dependency theory has contributed to its conceptualisation; second, it will explore the 'soybean nexus' connecting the two regions; and thirdly, the article will provide an analysis of different strategies pursued by China in expanding its influence over the soybean complex. This article proposes a renewed look at dependency theory as a useful framework to understand the complexities of China-Latin America relations.

CHINA, LATIN AMERICA, AND DEPENDENCY

A significant body of literature has analysed the different effects of the long commodity boom beginning in 2000 in Latin America (Burchardt and Diez, 2014; Gudynas, 2009; Svampa, 2013). With some exceptions (see Burges 2017; Ellis 2009; Gallagher 2016), the role of this commodity boom in fostering greater economic integration between Latin America and China has received less attention. The long commodity boom of the early 21st century, it has been argued, was largely the result of the rising demand for energy and food staples by the emerging economies, and amongst these, China in particular (Baffes and Haniotis 2010). Simultaneously, since the 1990s, China has increased its diplomatic and economic ties with Latin America – chiefly through its expanding trade relations, facilitated by its 2001 entry into the World Trade Organisation (Wise and Quiliconi 2007). China's role in driving up global commodity prices, and its growing economic ties with Latin America, has had two important results for the economic makeup of Latin America: the increasing penetration of Latin American markets by competitively priced Chinese manufactures, and the growing concentration of primary goods in Latin American exports to China.

On one hand, these impacts have been unevenly distributed between South and Central/North America. Countries in the north of Latin America, chiefly Mexico and certain Central American countries, have experienced increasing competition from Chinese imports such as textiles and electronics (Wise and Quiliconi 2007: 411), as imports to Latin America from China rose from 2% in 2000 to 16% in 2014 – the vast majority of which were low-, medium-, and high-technology manufactures (OECD 2015: 93). On the other hand, the region has become a key supplier of raw material and agricultural exports to China (Wise and Quiliconi 2007). This dynamic has given resource-rich Latin American countries a unique opportunity for growth in the context of favourable terms of trade. GDP growth in the region increased from below 1% in 2002 to 6% in 2003, and remained above 4% until 2010 - with the exception of 2009, due to the impact of the global economic crisis (ECLAC 2014). Other indicators also reflect the positive impacts upon Latin American economies, with foreign debt levels as a percentage of GDP halving from almost 40% in 1999 to 19% in 2011, and foreign

direct investment (FDI) levels more than doubling in the same period of time - from US$72 billion in 2000 to US$153 billion in 2011 (CEPALSTAT 2017).

However, there is also evidence that this trade relationship has fostered the re-emergence of export-oriented models based on the extraction of natural resources in Latin America, and in South America particularly. Mining, oil and shale gas, agro-foods and biofuels have been consolidated as fundamental sectors of South American economies, both for their high profitability and as source of royalties or export taxes. Exports to China, as a share of Latin America's total exports, grew from 1% in 2000 to 10% in 2013, 75% of which were natural resource commodities (OECD 2015: 93; Sevares 2007). As mining and oil extraction have increased their role in the exports of Bolivia, Ecuador, and Venezuela, agricultural commodities such as soybean and sugar have become essential to the current accounts of Brazil, Argentina, and Paraguay. Nevertheless, the size of agriculture as a share of GDP decreased for both Argentina and Brazil - the largest exporters of soybean in the region - between 2003 and 2016 (World Bank, 2017). This is due to the fact that the soybean complex generates the development of related services and industries, such as crushing and the production of soybean oil and meal. This dynamic has been conceptualised as an expression of the 're-primarisation' of South American economies (McKay et al. 2016b). An extensive body of literature has explored the socio-economic and environmental impacts of the resulting natural resource extraction – or 'extractivism' – in the region, as well as the accompanying technologies, such as the extensive utilisation of genetically modified (GM) crops (Garcia Lopez and Arizpe, 2010; Lapegna, 2017; Leguizamon, 2016; Fearnside, 2001; Greenpeace 2006; Otero and Lapegna, 2016).[2]

Overall, the global commodity boom accelerated the expansion of China's trade relations with Latin America. While many Latin American countries have experienced a tremendous improvement in their terms of trade, with positive implications for economic growth, there has been a tendency towards an over-reliance of South American economies in particular on primary goods, as they have come to occupy a greater portion of exports to China. Yet in addition to *trade* imbalances, China has also pursued more direct mechanisms of control to 'lock in' this unequal economic relationship. This dynamic, this article will argue, is best understood through a critical engagement with dependency theory.

Theorising this phenomenon: Dependency revisited?

Several influential accounts have framed China/Latin America relations in a positive light by pointing to the impact of this relationship on the latter's terms of trade. Gallagher (2016: 3, 6) writes that 'Latin America's China Boom marks a new era of economic history in the Americas', whereby 'China came to the rescue, at least for many South American countries'. However, as mentioned above, others have analysed this relationship in less rosy terms, focussing on the role of China in the re-primarisation of Latin American economies, the emergence of new core-periphery relations, and the resulting social, environmental, and democratic implications (Sevares, 2007; Jenkins, 2012; Slipak, 2014).

China's increasing role in the region has prompted the emergence of a new language of dependency in Latin America. This rapidly expanding presence has led many to discuss the

region's 'sino-dependency' (Oppenheimer, 2013; Manrique, 2013), and even pushed the Executive Secretary of ECLAC to warn about the 'risks of a new dependency' upon China (Clarin, 2011). Dependency theory emerged in the 1960s in response to the failures of the structuralist approach. Although internally heterogeneous (see Palma, 2009), dependency theory criticised structuralism's faith in the Latin American bourgeoisie to rescue the region from underdevelopment, and instead argued that the core-periphery dynamics observable in North-South economic relations were inherent to capitalism (Cardoso and Faletto, 1979; Frank, 1967). The domestic bourgeoisie was not to be understood as a source of potential development, as modernisation theory had insisted, but rather they should be seen as rent-seekers who benefited from the core's exploitation of their countries. According to this approach, the peripheral economies of the Global South were locked in a position of dependency, as they depended on primary goods exports to the Global North, while relying on the latter for industrial manufactures. Such a global imbalance was not a resolvable aberration, but rather an inevitable result of the capitalist system.

For Frank, this unequal dynamic divided countries into 'core' – or 'metropolis' - and 'periphery' - or 'satellite'. The former signifies advanced economies that import primary commodities from the latter, in exchange for industrial manufactures at favourable terms of trade. The distinction between core and periphery applies not only to countries, but cities and regions too can be subject to processes of 'satellization' (Frank, 1966: 20). Satellites or peripheries are thus enmeshed in a dynamic that limits their development (ibid). As Amin has argued, the economic development of these zones tends to be driven by processes of globalization, rather than autonomous national projects (Kvangraven, 2017: 16). The process of capital accumulation in the periphery is a response to an 'impulse' (or a demand) initiated by the core (Amin, 1974: 12), and a transition away from this peripheral model would imply moving towards a more autonomous form of development (1974: 16).

Variants of dependency theory – particularly Frank's interpretation and Immanuel Wallerstein's world-systems theory – have been criticised for a number of shortcomings. Brenner (1977) argues that Wallerstein implicitly shares key assumptions with Adam Smith and classical economy theory, namely an understanding of capitalism as a world system of trade and a corresponding division of labour. Consequently, dependency authors – particularly Frank – failed to understand capitalism as a system of production and overlooked the role that class structures play in determining underdevelopment. Frank himself recognised this criticism (1974), and while he analysed national bourgeoisies in his later writings, other dependency scholars have more successfully addressed this shortcoming. In particular, Cardoso and Faletto (1979: 75) highlighted how the differential relations between *latifundistas*, agricultural capitalists, mine owners, merchants, and bankers in different countries has important consequences for dependent development. These authors propose not so much a 'theory of underdevelopment' but a 'methodology adequate for the study of concrete situations of dependency' (Palma, 1978: 912).

Drawing from this theoretical tradition, several contemporary scholars have characterised China's new relationship with Latin America as relations of dependency or even neo-imperialism (Wilkinson et al. 2016: 729; McKay et al. 2016b: 604). Sevares (2007) advised caution when examining the region's rising growth rates, since improved terms of trade derive from higher commodity prices rather than an increase in manufacturing exports. Sevares

concludes that the trade relationship is substantially asymmetric, with China exercising a double pressure – on primary commodities, as the main importer, and on manufactures, as the principal exporter – as well as reproducing investment policies similar to that of Britain in the 19th century (ibid). Similarly, Jenkins (2012) provides strong evidence of the deep asymmetries governing China-Latin America trade relations, and thus characterises these relations as "dependent", while still pointing out that the United States (U.S.) remains the hegemonic power in the region. Finally, Slipak (2014: 119) draws directly from dependency theory, by first establishing that China constitutes a 'core' economy, and secondly by identifying a 'link of subordination' between China and Latin America, from which the former clearly benefits. Nevertheless, Slipak points out that dependency theory requires certain adjustments in order to capture the current realities of this relationship and that the core-periphery binary lacks the nuance necessary to adequately comprehend China's new global role.

Analysing China–Latin America relations through the lens of dependency is useful in moving beyond the South-South Cooperation rhetoric proposed by Chinese elites and welcomed by their Latin American counterparts, and in unpacking the imbalances perpetuated by these relations. However, by focussing on the immediate trade balance, these authors tend to overlook deeper mechanisms of dependency operating within the China-Latin America relationship. The work of Dos Santos is instructive for rectifying this blind spot. Dos Santos (1970) argues that a form of 'technological-industrial' dependency emerges when developing countries' nascent industrial sector becomes reliant on the foreign currency earned by the export sector to import industrial inputs and technology. Countries therefore become locked in to an export-oriented economy and consequently lack the capacity or autonomy to transform their productive matrix. While some countries may manage to develop their own capital-goods industries, foreign capital tends to play a prominent role in these sectors, limiting the autonomy of peripheral economies in determining their development trajectory (Dos Santos 1970: 233; Kay, 1989:150).

Dos Santos' work hints at a broader point, namely that dependency is sustained not only by unequal terms of trade, but by unequal control of resources and capacities. By emphasising the exchange of goods, less attention has been paid to issues surrounding China's efforts to expand its influence over primary commodity production in the region. China's privileged role is not limited to its place as one of the main trade partners of these countries, but it has also been consistently expanding its presence in different stages of production. Through several strategies, Chinese companies have been extending their scope of control over the production, processing, and trade of soybean in Latin America, thus promoting a form of dependency that is missed by analyses that fetishise the makeup of current account surpluses. While imbalances in the structure of trade do reveal a dependent political economy between Latin America and China, attempts to increasingly permeate every link within the commodity chain have deepened the satellization of areas in Latin America and limited the capacity for autonomous development. Within these relations of dependency, imbalances cannot be addressed through industrial and trade policies alone, as the dominance of the core power is enmeshed throughout all the stages of the productive system.

Certain theoretical developments that emerged from dependency theory, namely Wallerstein's world-systems theory, have highlighted the utility of focusing on commodity

chains, understood as 'network[s] of labour and production processes whose end result is a finished commodity' (Hopkins and Wallerstein, 1986: 159). This in turn has led to the emergence of Global Commodity Chains (GCC) and later Global Value Chains (GVC) perspectives, as an approach to map the geographically-extensive production linkages for particular commodities. Although these approaches are valuable in understanding different actors' strategies in global processes of production, this article focusses instead on processes of market governance, rather than the intra-firm governance that GVC analyses tend to highlight. The following sections explore China's strategies to govern the international soybean market.

THE SOYBEAN NEXUS: THE CENTRALITY OF SOYBEAN TO CHINA-LATIN AMERICA DEPENDENCY

The incredible rise in Chinese consumption and China's reliance on the international market for supply of soybean have caused the oilseed's global price to soar. Coinciding with technological and productive improvements, China's growing demand has fostered a massive expansion of soybean production in South America, especially in the Southern Cone. These countries' exports have become dominated by this crop, and they have as a result become extremely reliant on soy for foreign currency reserves. The case of soy, then, is fundamentally at the core of this dependent relationship.

Originally an Asian crop, soybean was introduced to the Americas at the beginning of the 20th century (USDA ERS, 2017). As a rich source of vegetable protein, soybean has many uses. It is directly processed for human consumption; used as oil for biofuel; employed as meal for livestock feedstuff; and recent research has increased the possibilities for its use as an input in industrial processes to produce rubber. These multiple uses make soybean a *flex crop*, one that can be switched from one supply chain to another with relative ease, which makes it an asset of increasing importance for diverse economic sectors. Fuelled by its 'fundamentally flexible' quality (Oliveira and Schneider, 2016: 168), soybean has risen to become one of the most important agricultural commodities today. World production of soybean in 1994 was around 136 million tonnes, with a harvested area of over 62 million hectares. By 2016, production had increased by over 150% and the harvest area had grown by almost 90%, covering more than 1 million square kilometres (FAOSTAT, 2017). Moreover, soybean leads global commodity trade in terms of value, with over 130 million tonnes worth almost US$50 billion traded in 2015 (FAOSTAT, 2017).

The most important South American agricultural producers have a significant domestic capacity to crush soybeans and process them into meal and oil. Argentina, for example, processes almost 70% of its total soybean production (J.J. Hinrichsen S.A., 2014), while Brazil follows with 45% (ABIOVE, 2017). In fact, Argentina is a key player in the soybean oil market, contributing 40% of exports worldwide (FAOSTAT, 2017). Paraguay and Uruguay have also begun expanding their crushing capacity in the last five years. However, China has demonstrated a strong preference for imports of raw soybeans. The only soybean by-product that features in Chinese-Latin American trade is oil, which in 2013 constituted just 4% of Latin American agricultural exports to China (OECD, 2015: 97).

Several elements have contributed to the rapid expansion of soybean production, one of these being the emergence of a 'technological package' that contributed to the perception of the crop as an efficient and safe investment (Phélinas and Choumert, 2017). This package is composed of Genetically Modified (GM) seeds, agrochemical nutrition, no-till or direct sowing,[3] and high mechanisation (ibid). The dominant 'package' has been that patented by Monsanto as the soybean variety Roundup Ready (RR), which is resistant to their weed killer Roundup, based on glyphosate. Approval of GM crops in Latin America has been key in initiating the rapid spread of the crop, and it is embedded in the consolidation of the neoliberal food regime and the associated dominance of transnational agribusiness companies (Otero & Lapegna, 2016). Argentina was the first one to do so in 1996, followed by Brazil in 2005 (after a difficult struggle between the Ministry of Agriculture on the one side, and social movements and the Ministry of Environment on the other[3]) (Motta, 2016), and Paraguay licensed GM crops in 2004.[4] After all countries had legally accepted GM varieties, the success of the technological package in boosting profitability for farmers encouraged its rapid spread and today it dominates agricultural production in the region. However, the soybean production model has also incentivised an intensification of land use, increasing monocropping – and shifting away from crop rotation systems – and requiring a smaller labour force, with its consequent socio-economic impacts (Phélinas and Choumert, 2017). This package is also significant in terms of market share. Monsanto's patent over glyphosate expired in 2000, and since then, China became one of the largest producers and exporters of the pesticide, providing 60% of global supply, with Brazil and Argentina constituting important destinations for this product (Research and Markets, 2018; Pucci, 2017).

China's production of soybean has been stable and has even experienced some periods of growth since the 1960s (FAOSTAT, 2017). However, its domestic production has not been sufficient to address its own demand. Myers and Jie (2015: 7) suggest that the Chinese government's prioritisation of the domestic production of rice, wheat, and corn, fundamental for the country's grain sufficiency, over soybean, has fuelled the global boom in the commodity. In fact, the rise of soy as a flex crop and as a valuable agricultural commodity is inextricably linked to changes in China's patterns of consumption. As one analysis estimates, the grains:meat/fish:vegetables/fruit ratio changed from 8:1:1 in 1980 to 4:3:3 in 2005 (Myers and Jie, 2015: 5). As evidence of the inextricable link between soybean's rise and Chinese demand, WWF reported that China's consumption of soybean increased from 26 to over 55 million tonnes between 2000 and 2009, and Chinese imports are expected to have increased by almost 60% by 2022 (WWF, 2014). China imported 69 million tons of grain and 1.4 million tons in soybean oil in 2014, while the European Union received over 12 million tons of soybean and 19 million tons of soybean meal in the same period (Foreign Agricultural Service/USDA, 2014). According to the OECD-FAO Agricultural Outlook 2013-2022 (2013), production of oilseeds in general is expected to increase by 26% over the next decade, through a combination of re-distribution of land use in favour of oilseeds and increased yield. Increasing demand for soy, both for Chinese consumption (and other developing countries such as India) and as biofuel, reinforces a tendency for oilseed prices to increase in the medium term, consolidating the crop's profitability (OECD/FAO, 2013: 141). With regards to Chinese-Latin American relations, the importance of soybean cannot be overstated: 28% of all Chinese agricultural imports originate from Latin America, 77% of which are soybean grains (OECD 2015).

Soybean production is key both for South American economies in general and for their relationship with China. There is an intimate connection between the economic performance of the countries of the Southern Cone and China's demand for soybean. In other words, growth in South American countries is to a large extent dependent on soybean exports and consequently, on trade of this oilseed with China. The emergence of China as a core economy in the global political economy and the expansion of production networks implies the development of new relations of dependency that go beyond trade and entail the control of land, production processes, financial investment, and regulations, thus determining the terms of development of South American countries. The next section will explore these processes, and highlight how these attempts to control access and supply of resources is rooted in efforts from China to break with its own dependence on external powers.

CHINA'S GROWING PRESENCE IN THE GLOBAL SOYBEAN COMPLEX

Following the traumatic 'Battle of the Beans' in 2004, in which China was badly burned by global derivative markets and Western agricultural conglomerates, China has attempted to extend its governance of the global soybean industry through a variety of multiscalar strategies. These strategies, taken together, have engendered relations of dependency between China and South America – dynamics of control that cannot be ignored by analyses of Sino-Latin American dependency.

The roots of China's desire to govern the soybean complex: The 2004 'Battle of the Beans'

Food security in China has historically meant *grain* security, which included cereals, coarse grains, and beans - including soybean (Zhan, 2017). However, while transitioning towards a market economy, after joining the WTO in 2001, China decided to liberalise the soybean market, and the oilseed became the most liberalised product in the Chinese economy. It was during this process that soybean was dropped as a grain security priority and was instead 'redefined as an industrial crop' (Schneider 2014: 624). As a result, imported soybean *indirectly* contributes to food security through its role as an input for livestock production.

Soybean became a key element in the *meatification* of diets in China (Schneider, 2014: 625), and consequently on the perception of progress that the government pushed, as urban middle and upper classes moved towards higher protein diets (Schneider with Sharma, 2014). While liberalising soybean trade - with negative consequences for domestic soybean producers (Hairong et al., 2016) - China has displayed a determination to strengthen its domestic soybean crushing industry, which suffered a huge crisis in 2004, following the so-called 'Battle of the Beans' (Oliveira and Schneider, 2016). This crisis unfolded after Chinese importers, following a significant rise in demand for soybean, turned to the CBOT to purchase soybean futures as a way of hedging against the risk of further price increases. However, this spike in demand and speculative flows pushed the futures contracts to an abnormally high price, and Chinese buyers ended up acquiring these contracts at a 30-year high (China Daily, 2009). At the time of cashing in the contracts, soybean prices had dropped by almost 30% and many buyers defaulted on

their contracts. The 'big four' agribusiness traders, known as the ABCDs (ADM, Bunge, Cargill, Louis-Dreyfus), took Chinese companies to GAFTA in London, which ruled in favour of the transnational traders, hence resulting in Chinese importers paying at least US$1.5 billion more than the market price, according to the Chinese Academy of Sciences (Wen, 2008; China Daily, 2009; Oliveira and Schneider, 2016: 171).[5] The sudden shift in price was considered to be a result of changing reports from the U.S. Department of Agriculture, which first suggested low global stocks of soybean, while later a record harvest in the US prompted the sudden drop in prices (see Oliveira, 2018b). The main beneficiaries of this 'soybean crisis' were the transnational agricultural trading companies, which came to acquire the domestic Chinese processing companies that had suffered financially from the price volatility. At the end of this process, the ABCDs were thought to control around 85% of China's crushing capacity (Wen, 2008).

This traumatic event shaped the following development of the soybean complex in China, as the state became invested in the recovery and expansion of the domestic crushing industry (Oliveira and Schneider, 2016: 171). The government's strategy to support this recovery allowed for domestic companies to increase their share in the country's soybean industry; however, rather than reacquire the non-foreign-owned soy mills, this was done by greatly increasing the country's *total* crushing capacity. This led directly to a situation whereby China developed a massive crushing overcapacity. In 2012, the volume of soybeans processed in China was less than half of the country's operating ability, which meant there was enough idle capacity to process Argentina's entire production volume (ibid). In other areas of agribusiness production, such as pork, the industry is led by 'dragon head enterprises' encouraged by the government (Schneider, 2017). As Schneider mentions, soybean is an exception in Chinese agribusiness, 'an example of how the state does *not* want to proceed with agricultural development' (2017: 11, emphasis in original). In its trade with South America, China has demonstrated a strong preference for the importation of raw soybeans. Soybean producers in Argentina, Brazil, and Paraguay, have stated that they believe this is part of a purposeful national policy by China to only import soybeans in their natural state, in an attempt to keep all industrialisation and added value within China.[6]

The Chinese authorities are understood to be wary of a sudden change in the control of the importation and processing of soybean for domestic consumption – either as edible oil or as input for poultry production. Zha and Zhang (2013) have argued that, even if not part of the *grain sufficiency* policy, this commodity is key to China's strategy of food security, and having this sector controlled almost in its entirety by foreign-owned companies following the events of 2004 raised considerable concern. Yet perhaps more importantly, China's 'obsession' with food security (Zha and Zhang, 2013) is linked to concerns over the potential social unrest that could follow a food shortage or high food prices (Freeman, Hoslag and Weil, 2008). One element of soybean's importance for domestic security is related to its role as meal-stuff for livestock, considering the Chinese population's rising consumption of protein, namely in the form of meat. Imports of soybean then become a key component in the meatification of diets and the government's efforts to compensate for the lack of democratic openness with socio-economic progress.

China's changing strategy in the soybean sector following the 'Battle of the Beans' can also be analysed as an attempt to break from the domination by foreign capitals in one of the

country's most important sectors. In the aftermath of the soybean crisis, commentators in China observed that 'South America produces soybean, China buys soybean, and the US sells soybean' (Hairong et al., 2016; Zhou, 2015). This implies a certain unease over the control of the soybean market by US-based corporations, and the need for China to develop direct trade linkages with South American producers. Indeed, Oliveira (2018b) describes one of China's first attempts to directly trade soybeans with Brazil, cutting ABCDs out of the process, even before the Battle of the Beans. China's dependency upon US-based transnational companies had also extended to agro-technology. A report from Greenpeace in 2009 warned that China's lack of ownership of GM rice varieties could have detrimental consequences for the country's food security (Hairong et al., 2016).

The expansion of domestic crushing capacity was not the only strategy through which China has attempted to protect itself from future threats to its access to agricultural goods. In particular, four outward strategies stand out as the most important mechanisms through which China has sought to insure against another devastating disruption to its soybean supply: large-scale land purchases; acquisitions of and investments in Latin American agricultural companies; infrastructure investments and financial support; and increasing veto power over 'technological events'.

While we must be careful not conceptualise the various Chinese actors and institutions as a monolith, acting in a unitary manner, the identification of these strategies nevertheless attempts to show, following Schneider's analysis of the pork industry (2016), that there exists a clear intention on the part of the Chinese state to expand the global reach of Chinese companies and secure access to resources upon which the country has a 'strategic dependence' (Wilkinson et al., 2016). The four strategies to govern the soybean chain discussed below each involve both public and private actors, supporting Payne's observation of the public/private fluidity that characterises contemporary global governance (2005: 78). Yet these strategies are also fundamentally rooted in China's 'Go Out' policy, expressed by the Minister of Agriculture Han Changfu in a 2010 announcement: 'the time and conditions are ripe for the country's agricultural companies to "go out"' (Myers and Jie, 2015: 8). According to Zhang and Cheng (2016: 34), this is part of China's Global Agricultural strategy: 'private sectors and enterprises are encouraged to be the main forces of investment in foreign agricultural resources. (…) The main task for China's overseas agricultural investment lies in establishing a *global system for production, marketing, transportation, storage, processing and manufacturing*' (2016: 35, emphasis added). This is achieved with government support, and in some cases the direct support of investment banks, such as the Chinese Development Bank or the China Export-Import Bank (Eximbank).

Strategy I: Land purchases

Attempts to acquire land for agricultural purposes formed an initial element in China's strategy to govern global agricultural production in general, and soybean in particular. This has been documented by NGOs and think tanks as part of a broader phenomenon that extends beyond China-Latin America relations, as it is related to the global race for access to cheap food (See GRAIN, 2012; Franco et al., 2012; Hall, 2011; LandMatrix, 2018), and has also been linked to

the global 'meatification of diets' (Schneider, 2014). There is a lack of accessible information on the scale of land purchases, which makes it difficult to reach a definite figure regarding how much land has been acquired by foreign states or transnational companies. In the case of China's purchase or leasing of land in Latin America, estimates range from 700 thousand hectares, reported by the Inter-American Dialogue, to more than one million hectares, reported by GRAIN (Myers and Jie, 2015). It is thus unclear the scale of Chinese land acquisition in Latin America, and whether China stands out – or even leads – in this trend compared to countries from the Global North. While attempts by Chinese capitals might have received more coverage and attention, foreign investors from the US and Europe have also been active in these processes (Oliveira, 2018a). However, these strategic movements, although not always successful, indicate China's continuous efforts to ensure and further control the uninterrupted supply of soybean. In his analysis of China-Brazil linkages, Oliveira (2018a) suggests that China has attempted to by-pass ABCDs in Brazil and hence avoid the dependence upon US-based companies. Increasing investment in land, and hence direct access to production, would allow China to challenge the concept that 'China buys soybeans, South America produces soybeans, and the US *sells* soybeans'. Land acquisitions in South America allow Chinese companies to increase their market share and their overall influence over production and trade.

Some of these land purchases have been on a small scale and in association with domestic companies, but overall these constitute attempts by China to increase its presence in the region. In 2011, the Chongqing Grain Group (CGG), a private Chinese trading company based in Chongqing, announced a US$850 million purchase of 200,000 hectares in the north-eastern Bahia region of Brazil, for the production and processing of soybean (Zha and Zhang, 2013: 468; Maissonave and Magenta, 2011). This project was partially supported by the Chinese Development Bank (CDB) and, according to the mayor of Chongqing, CGG holds a majority stake in the project, while 30% is owned by their Brazilian counterparts (Maissonave and Magenta, 2011). There have also been reports of CGG purchasing land in a northern region of Argentina (Anon., 2012); the private investment group Shanghai Pengxin Group has acquired small extensions of land in Bolivia for soybean production (Ellis, 2014: 38; LandMatrix, 2018); the Hong Kong-based Pacific Century Group reportedly manages farms in Paraguay through its subsidiary Calyx Agro (formerly a Louis-Dreyfus company) (GRAIN, 2011; Infocampo, 2012); and there have been expressions of interests by the private company Sanhe Hopeful Grain & Oil and the state-owned China National Agriculture Development Group in purchasing land in the state of Goiás, Brazil (Oliveira, 2018a: 119). Furthermore, neither the CGG project in Bahia, nor that of Beidahuang in Argentina mentioned above have been permanently cancelled, and in fact the totality of unconfirmed or stalled deals covers around 1.5 million hectares. Of these, around 900 thousand hectares are dedicated to the production of soybean (Myers and Jie, 2015).

Efforts by Chinese companies to acquire land for production of soybean have been met with resistance from local populations and the government, and made even more difficult with the legislation passed in 2010 and 2011 in Brazil and Argentina, respectively, with the aim to limit the acquisition of agricultural land by foreign investors (See Perrone, 2013). Resistance from local actors and activist groups has resulted in the stalling of CGG's investment in Bahia, which as of 2014 had barely advanced. While Bahia's government cited bureaucratic processes as the source of the delay, some analysts have pointed out that the hold-up may have derived

from concerns over the acquisition of large extensions of land by a foreign company (Stauffer, 2014). The delay gave the impression of the abandonment of the project. However, Oliveira observed that field visits to the site indicated a *de facto* ownership by CGG's Brazilian subsidiary, Universo Verde Agronegócios (Oliveira 2018a: 118, 119). In Argentina, the Beidahuang Nongken Group's attempt to purchase 300,000 hectares of land in the south of the country for grain cultivation and export to China was suspended due to pressures from resistance groups and demands from the national government to limit foreign purchases of land (Zha and Zhang 2013: 468; Clarin 2011).

While resistance from both the government and local movements to extensive foreign purchase of land has been the main obstacle to the completion of these operations, recent political changes in some of these countries may accelerate the completion of these acquisitions. In 2017, Brazilian President Michel Temer proposed legislation to relax the conditions for acquisitions of land by foreign capitals in Brazil (Rosa 2017). While Temer's successor, Jair Bolsonaro, was prone to anti-China rhetoric during his electoral campaign, he has also been open about his disdain for environmental protection and the need to support agribusiness capital, which will likely lead to an expansion of the oilseed industry (Sengupta 2018). In Argentina, President Mauricio Macri's administration signed several agreements with China in 2018, at the time of Xi Jinping's state visit. These agreements include: a 'Joint Action Plan 2019-2023', which covers trade, investment, agricultural and infrastructure issues, among others; a US$9 billion currency swap deal; investments in infrastructure and financing for infrastructure; and an expression of interest by China Grain Reserves Ltd. to purchase double the amount of soybeans and soybean oil that they bought in 2017 (Villafañe 2018).

Strategy II: Acquisitions and investments

As evidenced by the 2004 'Battle of the Beans', the big four agricultural trading companies play a dominant role in the global soybean and agricultural economy, trading commodities throughout the value chain. However, the rapid development and expansion of soybean has also enabled the growth of other companies, usually in countries that are producers of soy, at all stages of the production chain: from seeds, fertilisers and other agrochemicals; to the processing and trading of the crops. As mentioned above, China has been incentivising Chinese companies – many of them state owned – to expand globally as a strategy to both secure the supply of soybean (and other agricultural products) and enhance its capacity to control prices through its 'Going Out' policy.

Examples of this include the acquisition of NIDERA, a transnational agribusiness company originally founded by Dutch and Argentine capitals, by the state-owned China National Cereals, Oils and Foodstuffs Corporation (COFCO), China's largest grain trader. This acquisition began in 2014 and was completed in August 2016 when the Chinese company bought the remaining 49% share of NIDERA (Sheppard, 2016). Additionally, also in 2014, COFCO finished the purchase of Noble Group, a grain trader and commodity supply manager based in Hong Kong. While these purchases have a global reach, as they consolidate the Chinese company's presence in the world grain market, they also have significant influence on the soybean and grain complex in South America. In this sense, it is significant that in 2017, the already established COFCO was the second largest exporter of grains (including soybean),

meal and oil in Argentina, with soybean representing 16% of the total of grains exported, and considering that soybean meal and oil have a significant role in these exports (Calzada, 2018; Calzada and Di Yenno, 2018). With these two acquisitions, China has expanded its presence over this section of the commodity chain, as COFCO becomes one of the key actors in the soybean and grains export sector in Argentina.

A similar strategy has been undertaken by CGG, the grain trading company discussed above. Though unable to fund an acquisition, the company opted to form alliances with local companies in Brazil and Argentina, as a tactic for ensuring soybean supply. In 2012, it developed an agreement with an Argentine food company, Molinos Cañuelas, to produce soybean on a 10,000 hectare farm, with an initial investment of US$10 million (Zha and Zhang, 2013: 468; Bidegaray, 2012). Zha and Zhang (2013) also report that, in addition to their attempted acquisition of 200,000 hectares of land in Bahia, Brazil, CGG began lending money to soybean producers at a discount rate as support for expanding their production capacity, conditional on the purchase of soybeans by CGG at a previously set price.

Acquisitions and investments have also been pursued in the seed and agrochemical industry. These developments demonstrate a tendency towards increasing concentration of capital in the agricultural commodities' production chain, with potential consequences for production and governance of these different crops, as large biotechnological companies develop the capacity to determine production conditions, such as the quality and features of the seeds and the herbicides needed for their production. In this restructuring, China has been successful thus far in consolidating its place in a market increasingly dominated by a few big players, in an effort to avoid being locked out of a key market. The clearest case of this is the acquisition by state-owned chemical company ChemChina's of Syngenta, a Swiss based agribusiness and seed company that is one of three corporations that controls over half of the soy seed market (Oliveira and Hecht, 2016: 255). In October 2017, SIX Swiss Exchange, Switzerland's principal stock exchange, approved the request by ChemChina to delist the remaining shares of Syngenta not held by the Chinese company (Syngenta, 2017). This operation places China in a leading position in the genetically modified seeds market, as Syngenta holds one of the most extensive portfolios of seed varieties in the world (El Pais, 2016). This move is consistent with the role of Chinese companies in the production and export of glyphosate – the main herbicide used in conjunction with Monsanto's Round-up Ready soybean seed – as they produce 40% of the world's supply and constitute 35% of global exports (Haro Sly, 2017: 6). Glyphosate is also significant in the soybean connection with Argentina, as it is one of the leading imports from China to this country (Haro Sly, 2017: 6). The completion of this deal also falls into a general trend of restructuring in the global agrochemical and seed markets, other examples of which are the merger of Dupont and Dow, and Bayer and Monsanto.

Strategy III: Investments in infrastructure and financial support

A third strategy involves lending and investments. As opposed to the operations mentioned above, where the projects were designed and implemented by state-owned companies, these loans and funds are directly provided by the Chinese government through its development banks, namely the China Development Bank (CDB) and the China Export-Import Bank

(Eximbank). The role of China in Latin America as a source of loans and finance has been increasing significantly in the last fifteen years. Since 2003, loans and credits provided by China to the region have amounted to US$113 billion, and in 2015 total bilateral loans surpassed that of the World Bank and the Inter-American Development Bank (IADB) combined (WWF, 2014; Myers et al., 2016). The support provided by Chinese institutions to the development of these projects is not a direct mechanism for the control of the soybean complex in the region, but rather demonstrates efforts to ensure access to soybean and other commodities. By incentivising and funding infrastructure projects, China aims to prevent the existence of bottlenecks that might disrupt the transportation and hence supply of resources. This is in consonance with the One Belt, One Road project, which aims to develop corridors for the movement of commodities and resources to and from China (see Jie, 2017).

These investments are usually not aimed directly at control over soybean's value chain, and are not limited to this sector, but in general they involve the facilitation of infrastructure projects or the development of industrial facilities linked to natural resources. Nevertheless, these flows of capital are still linked to China's concern with the uninterrupted provision of raw materials, including agricultural as well as mineral and oil resources. In terms of loans directed to infrastructure projects, Myers et al. (2016: 2) point out that roadways have been prevalent, especially for the transportation of raw materials and commodities. Bolivia, for example, received a US$7.5 billion loan from Eximbank for several projects, including a highway that is part of the bi-oceanic corridor that will link Chile, Bolivia, and Brazil (McKay et al., 2016a: 11). Overall, between 2005 and 2015, 30% of Chinese investments in Latin America have been directed towards infrastructure, and in addition to bilateral agreements, China has allocated around US$35 billion in special regional funds (Myers et al., 2016). Not only that, but China has been increasingly seeking collaboration with the Inter-American Development Bank (IADB) in infrastructure investment. Both as a non-lending member of IADB, and by developing collaborations with Eximbank, the People's Bank of China and the Asian Infrastructure Investment Bank (AIIB) (Mendez, 2018). In fact, this organization was invited by the IADB to its last annual meeting in Mendoza, Argentina (ibid).

Although Chinese investment projects can be found across Latin America and the Caribbean, a large part of these loans has been concentrated in Argentina, Brazil, Ecuador, and Venezuela. Indeed, Venezuela figures prominently in the volumes of capital in the form of loans and investment that go from China to the region, mainly directed towards the oil industry. Similarly, many flows going into Brazil are associated with investments in Petrobras, the national oil company. However, there is also a large segment of this capital that is directed to projects linked to the soybean sector. For example, the CDB offered a US$2.6 billion loan over a 10-year period in 2010 to recondition a cargo rail system that connects Buenos Aires to the heartland of the soybean growing area (Kotschwar, Moran & Muir, 2012: 3), and in 2015 the Argentine government signed a letter of intention with the China Machinery Corporation to double financing for cargo trains (El Cronista, 2015).

Strategy IV: Veto of 'technological events'

A fourth governance strategy deployed by China draws from its leverage as a significant consumer of soybeans. As global demand for soybeans and other grains chiefly emanates from

China, any decision by this country to halt imports, or impose conditions on the quality of goods, has an impact on exporting countries. This country's decision to approve - or delay approval - of technological events (a term used by agricultural producers to refer to specific genetic modifications to certain seed species), including specific genetically modified (GM) varieties of soybean and other crops, can determine whether a soybean cargo is accepted or rejected, generating a significant loss to exporters. The mismatch in timing between the use of certain biotechnologies and their approval by Chinese authorities creates disruptions to the international trade of commodities that, for countries that are highly dependent on these exports, such as Brazil, Argentina, and other South American economies, can become a source of strain.

China's demand capacity thus has the ability to (dis)incentivise the use of certain GM varieties, pesticides, and agrochemicals. This means that it can extend its governance over the biotechnological sphere of the agricultural economy. This kind of control over the content and quality of grains can be problematic for countries that have agricultural production zones near shared borders, which can be very permeable to new generations of seeds and pesticides. As one interviewee put it:

> Soybean is not a hybrid [seed]. If you approve an event and Brazil does not, there will probably be filtrations through the borders, and vice versa. If China does not approve something, for example, then for any reason your boat can be stopped because there are traces of an event not approved by China. We need common policies for sanitation purposes, etc.[7]

There have been several instances in which China has rejected cargoes of soybean, corn or other grains based on sanitary reasons or on finding traces of GM varieties that had not been approved by Chinese authorities. For example, in 2004, Brazilian soybean shipments were rejected for containing 'unacceptably high level of seeds treated with fungicides' (Food Chemical News, 2004). Around 150 thousand tonnes of soybean were turned away, which led to a temporary ban on imports of the oilseed from Brazil by the Chinese Quality Agency (La Prensa, 2004). Similarly, the US has encountered several obstacles to the trade of corn and soybean with China, with numerous cargoes having been rejected in 2013 and 2014 after tests found presence of GM strains that had not been approved by Chinese authorities (ValorSoja, 2013; Durisin and Wilson, 2014).[8]

An additional dimension to China's 'veto of technological events' strategy is developing the capacity to use soybean as leverage to advance interests in other areas on a country-by-country basis. For example, in 2016, China suspended imports of soybean oil from Argentina, a decision that was suspected to be in retaliation for the decision by Argentinian President Macri's government to suspend the construction of two dams by a Chinese company, the Gezhouba Group, which had been approved and started by the preceding Kirchner government (Notinac, 2016; Centenera, 2017). More recently, in April 2018, China's plan to impose tariffs on US soybean imports in response to President Trump's proposed tariffs on Chinese goods demonstrates that, while the country has a 'strategic dependence' on the supply of this oilseed, it is nevertheless willing to wield its power in the global trade system (Meyersohn, 2018). These recent developments indicate that China is increasingly exercising its capacity to use its

very uneven trade pattern with South American to expand its dominance over the biotechnological sphere of the soybean complex as a sanction with which to extend its influence over other strategic economic areas.

In response to these policies, agricultural producers have developed cooperation mechanisms in order to define common positions on certain issues, with the aim of contesting the monopoly power wielded by China. As the quote above indicates, this is necessary if producers are to find common ground in respect to the use of biotechnology and their relationships with China. As part of the efforts to achieve this, many producers' associations have organised around the International Soybean Growers Alliance (ISGA), which unites representatives from Argentina, Brazil, Canada, Paraguay, the US, and Uruguay. As a member of the Paraguay Chamber of Oilseed producers commented: 'ISGA is important to defend our trade at the world level, and avoid asynchrony in the approval of technological events'.[9] In 2014, the association organised its first mission to China, where they discussed with the Chinese Ministry of Agriculture (MoA) the problems of only holding biotechnological approvals once a year, as had been the standard practice of the MoA since 2012 (ASA 2014). By reducing the frequency with which these events are authorised, the Chinese MoA has the capacity to disturb trade as well as the agrochemical and seeds market.

The challenge for South American countries is to find a strategy that will turn their ability for cooperation, and their extensive capacity to meet China's increasing demand for soy and other crops, into leverage against China's domination of the industry. As a former Argentinian Secretary of Agriculture explained: 'If all four countries get together and say "we will not sell to China for a year", China explodes. But that is only if we go all together. If we go separately, [China] will buy from Brazil and not from Argentina, and so on'.[10] Private Latin American initiatives, such as ISGA or the MERCOSOJA conferences gathering soybean producers from the Mercosur region are attempting to shift the governance of the agricultural value chain towards the supply end, as a strategy for countering China's power in determining the rules and conditions for the production and trade of soybean worldwide.

CONCLUSION

The growing role of China as a global economic actor has attracted much attention from academics and policymakers alike. In particular, the increasing presence of China in Latin America and its positioning as one of the region's main trading partners has raised questions over the mutually beneficial nature of this relationship. By analysing the case of soybean, this article explored the political economy of dependency between China and Latin America. Chiefly driven by Chinese demand, South America's production of soybean has been rapidly and drastically increasing over the last fifteen years, becoming consolidated as one of the most profitable economic sectors, particularly in Argentina, Brazil, and Paraguay. The main driver of global demand for soybean has been China's need to satisfy its population's changing food habits. In this sense, soybean embodies the special economic connection between these countries.

However, this article has argued that, in order to understand the full extent of these asymmetric relations, it is necessary to move beyond the observation of a trade imbalance between South America and China. Relations of dependency have expanded beyond trade

composition, as China has attempted to increase its influence over different sectors of the soybean complex. A closer look at China-Latin America relations through the lens of dependency analysis has proven effective in problematizing the discourse of South-South Cooperation and positive current account balances, as well as highlighting imbalances underpinning the asymmetric relations at play. Yet trade should not be understood as the *cause* of this core-periphery dynamic, but rather as a *reflection* of the satellization of economies in South America.

This article has examined four strategies with which China, through state-owned companies and financial support from its development banks, has expanded its influence over key segments of the soybean value chain. By increasing its efforts to access arable land in soybean-producing countries, consolidating its presence in the input and trading section of the value chain, facilitating infrastructure projects and using conditional loans to purchase goods at a favourable price, and exercising its veto power over technological events, China has created a multi-scalar approach to ensure its access to soybean at a controlled price, and to incentivise the processing of grains within its own borders. Further on, there are elements that suggest that China has intentions to expand its capacity to govern pricing power through the trading of commodity futures (Bloomberg News, 2017). This would allow China to challenge Chicago's dominance as a price-setting actor and to have more control over the soy market. The efforts by China to secure access and influence over the soybean complex have been met with resistance. The stalling of land purchasing operations due to opposition from local populations and NGOs, legislation limiting foreign access to land, or the creation of cooperation mechanisms by regional producers to better confront China's phytosanitary demands are some examples of this.

The soybean link between China and Latin America has important implications for our understanding of dependency relations in the current global order. As this article has shown, the dynamics of dependency between core and periphery cannot be reduced to country-to-country trade. In fact, the latest commodity supercycle has allowed South American countries to experience exceptional rates of growth and technological upgrading while relying on the export of primary goods, which does not chime well with traditional conceptions of underdevelopment (Kaplinsky and Farooki, 2017; Perez Caldentey and Vernengo, 2017). For example, the increasingly capital-intensive nature of agricultural production, which includes the rising use of machinery and bio-genetic technologies, has transformed Brazil into an 'agribusiness powerhouse', enhancing its role in the global political economy (Hopewell, 2017). This suggests that a focus on the composition of trade alone is no longer sufficient to understand how new mechanisms of dependency are reproduced in the Global South. An analysis of China-Latin America relations through a dependency theory lens should focus on the processes determining technology dependence which consequently lock countries in to export-oriented development.

By analysing the strategies utilised by China throughout the soybean value chain, and consequently unpacking what superficially appears to be an asymmetric exchange of goods, this article has highlighted the different ways in which Chinese-South American relations of dependency have limited the latter's capacity for autonomous development. This phenomenon should provoke scholars to rethink the nature of relations of dependency in the global political

economy and to enquire as to the implications these transformations have for dependency theory.

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REFERENCES

ABIOVE (2017) Associação Brasileira das Indústrias de Oleos Vegetais - Estatistica [Online] Available: http://www.abiove.org.br/site/index.php?page=estatistica&area=NC0yLTE= [Accessed 8 September 2017].

Amin, S. (1974) Accumulation and development: a theoretical model. *Review of African Political Economy*. 1(1): 9-26.

Anon. (2012) Una empresa china compró extensos campos al norte de la provincia. *El Liberal*. 4th May [Online] Available: https://www.elliberal.com.ar/noticia/40880/empresa-china-compro-extensos-campos-al-norte-provincia

ASA (2014) ASA/ISGA Discusses Biotech Approvals on Mission to China. *American Soybean Association*. 3 April. [Online] Available: https://soygrowers.com/asaisga-discusses-biotech-approvals-mission-china/.

Baffes, J. and Haniotis, T. (2010) Placing the 2006/08 Commodity Price Boom into perspective. *World Bank Policy Research Working Paper*. N. 5371. [Online] Available at SSRN: https://ssrn.com/abstract=1646794.

Bidegaray, M. (2012) Un grupo chino negocia una alianza con Molinos Cañuelas. *Clarin*. 7 July.

Brenner, R., (1977) The Origins of Capitalist Development: A Critique of Neo-Smithian Marxism. *New Left Review*. (I): 25–92.

Bloomberg News (2017) China plans to open up commodity trading to foreigners to bring down prices. *Bloomberg News*. 18 May [Onine] Available at: https://www.bloomberg.com/news/articles/2017-05-18/global-pricing-power-the-target-for-china-s-big-derivatives-push [Accessed on 30 April 2018].

Burchardt, H.-J. & Dietz, K. (2014) (Neo-)Extractivism – A new challenge for development theory from Latin America. *Third World Quarterly*. 35(3)**:** 468-486.

Burges, S. (2017) *Brazil in the World: The International Relations of a South American Giant*. Manchester: Manchester University Press.

Calzada, J. (2018) ¿Quiénes exportaron granos y subproductos en 2017? ¿Cuáles fueron los destinos? *Informativo Semanal Bolsa de Comercio de Rosario*. XXXV(1849).

Calzada, J. and Di Yenno, F. (2018) 43% de las exportaciones fueron granos, harinas, aceites, y otros subproductos. *Informativo Semanal Bolsa de Comercio de Rosario*. XXXV(1846).

Cardoso, F. H. & Faletto, E. (1979) *Dependency and Development in Latin America*. Berkley: University of California Press.

Centenera, M. (2017) China presiona a Argentina: si quiere inversiones debe cumplir antes lo firmado con Kirchner. *El Pais*. 17 May.

CEPALSTAT (2017) *Regional Panorama of Latin America and the Caribbean. Selected Indicators.* [Online] Available: http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/Portada.asp?idioma=i [Accessed 30 April 2017].

China Daily (2009) Chinese soybean producers lose out. *China Daily*. 20 April.

Clarin (2011) Un acuerdo con los chinos, demorado. *Clarin*. 19 August.

Dos Santos, T., (1970) The Structure of Dependence. *The American Economic Review*. 60(2): 231–236.

Durisin, M. And Wilson, J. (2014) U.S. grain losses seen up to $6.3 billion on China ban. *Bloomberg*. 16 April.

ECLAC (2014) *Statistical Yearbook for Latin America and the Caribbean*. Santiago de Chile: ECLAC. [Online] Available: http://repositorio.cepal.org/bitstream/handle/11362/37647/S1420569_mu.pdf?sequence=1.

Ellis, R. E. (2009) *China in Latin America: The Whats And Wherefores*. Colorado: Lynne Rienner Publishers Boulder.

Ellis, R. E. (2014) *China on the ground in Latin America; challenges for the Chinese and impacts on the region*. New York: Palgrave Macmillan.

El Cronista (2015) Trenes y reservas: Argentina quiere otro préstamo chino por U$S 2400 millones. *El Cronista.* 8 September.

El Pais (2016) Por que o governo chinês decidiu comprar a Syngenta? *El Pais*. 4 February.

Ezquerro-Cañete, A. (2016) Poisoned, Dispossessed and Excluded: A Critique of the Neoliberal Soy Regime in Paraguay. *Journal of Agrarian Change*. 16(4): 702–710. https://doi.org/10.1111/joac.12164

FAOSTAT (2017) Food and Agriculture Organization of the United Nations. [Online] Available: http://faostat3.fao.org/faostat-gateway/go/to/home/E [Accessed 8 March 2017].

Fearnside, P. M. (2001) Soybean cultivation as a threat to the environment in Brazil. *Environmental Conservation*. 28(1): 23-38.

Food Chemical News editor (2004) China rejects contaminated soybeans from Brazil. *Food Chemical News*. 17 May.

Foreign Agricultural Service/USDA (2014) Oilseeds: World market and Trade. United States Department of Agriculture. [Online] Available: http://usda.mannlib.cornell.edu/usda/fas/oilseed-trade//2010s/2014/oilseed-trade-03-10-2014.pdf.

Franco, J.C., S.M. Borras, A. Alonso-Fradejas, N. Buxton, R. Herre, S. Kay, and T. Feodoroff (2012) *The global land grab: A primer*. Amsterdam: Transnational Institute.

Frank, A. G. (1966) The development of underdevelopment. *Monthly Review*. 18(4): 17-31.

Frank, A. G. (1967) *Capitalism and Underdevelopment in Latin America: Historical Studies of Brazil and Chile*. London: Monthly Review Press.

Freeman, D., Holslag, J. & Weil, S. (2008) China's foreign farming policy: can land provide security. *Asia Paper.* 3.

Gallagher, K. P. (2016) *The China triangle: Latin America's China Boom and the Fate of the Washington Consensus*. Oxford: Oxford University Press.

García-López, G. A. & Arizpe, N. (2010) Participatory processes in the soy conflicts in Paraguay and Argentina. *Ecological Economics*. 70 (2):196-206.

GRAIN (2011) *World Bank set to finance one of Latin America's largest farmland grabbers*. [Online] Available: https://www.farmlandgrab.org/post/view/18736. [Accessed: 30 April 2018].

GRAIN (2012) *GRAIN releases data set with over 400 global land grabs*. [Online] Available: https://www.grain.org/article/entries/4479-grain-releases-data-set-with-over-400-global-land-grabs. [Accessed: 23 April 2017].

Gras, C., Hernández, V. (2016) Hegemony, Technological Innovation and Corporate Identities: 50 Years of Agricultural Revolutions in Argentina. *Journal of Agrarian Change* 16(4):675–683. https://doi.org/10.1111/joac.12162

GREENPEACE (2006) *Eating up the Amazon*. Amsterdam. Netherlands.: Greenpeace.

Gudynas, E. (2009) Diez tesis urgentes sobre el nuevo extractivismo: contextos y demandas bajo el progresismo sudamericano actual. in F. Davila (ed.) *Extractivismo, Política y Sociedad*. Quito: CAAP/CLAES. pp. 187-225.

Hairong, Y., Yiyuan, C., Bun, K.H. (2016) China's soybean crisis: the logic of modernization and its discontents. *The Journal of Peasant Studies*. 43(2):373–395. https://doi.org/10.1080/03066150.2015.1132205

Hall, R. (2011) Land Grabbing in Africa and the New Politics of Food. *Future Agricultures*. Policy Brief 41, 1-8.

Haro Sly, M. J. (2017) The Argentine portion of the soybean commodity chain. *Palgrave Communications*. 3, 17095.

Hopewell, K. (2017) A changing role for agriculture in global political economy? Brazil's emergence as an agro-power. in M.E. Margulis (ed.) *The Global Political Economy of Raúl Prebisch*. Abingsdon: Routledge. pp. 155-171.

Hopkins, T.K., Wallerstein, I. (1986) Commodity Chains in the World-Economy Prior to 1800. *Review (Fernand Braudel Center)*. 10(1):157–170.

Infocampo (2012) Calyx Agro: la compañía de Louis Dreyfus para el farming y real estate. *Infocampo*. 21st December. Available at: http://www.infocampo.com.ar/calyx-agro-la-compania-de-louis-dreyfus-para-el-farming-y-real-estate/ [Accessed 30 April 2018].

Jenkins, R. (2012) Latin America and China—A new dependency?. *Third World Quarterly.* 33(7): 1337-1358.

Jie, Y. (2017) China's One Belt, One Road: A Reality Check. *LSE Ideas Strategic Update*. 17(3), 1-12.

J.J. Hinrichsen S.A. (2014*) Yearbook JJ Nº49 (XLIX).* Buenos Aires: J.J. Hinrichsen S.A.

Kaplinsky, R. & Farooki, M. (2017) Raúl Prebisch and the terms of trade: how things have changed... In: M.E. Margulis (ed.) *The Global Political Economy of Raúl Prebisch*. Abingdon: Routledge. pp. 194-214.

Kay, C. (1989) *Latin American theories of development and underdevelopment*. London: Routledge.

Kotschwar, B.R., Moran, T., and Muir, J. (2012) Chinese investment in Latin American resources: The good, the bad, and the ugly. *Working Paper Series*. WP 12-3. Peterson Institute for International Economics.

Kvangraven, I. H. (2017), A Dependency Pioneer – Samir Amin. In: Kufakurinani, U., Kvangraven, I. H., Santanta, F., Styve, MD. (eds). *Dialogues on Development Vol. 1. Dependency*. New York: Institute for New Economic Thinking.

La Prensa (2004) Brasil pedirá a China que compruebe calidad de soja. *La Prensa*. 3 June.

LandMatrix (2018) *Online Public Database on Land Deals* [Online] Available: https://landmatrix.org/en/get-the-detail/by-target-country/ [Accessed on 3 February 2019]

Lapegna, P. (2017) The political economy of the agro-export boom under the Kirchners: Hegemony and passive revolution in Argentina. *Journal of Agrarian Change.* 17(2):313–329. https://doi.org/10.1111/joac.12205

Leguizamón, A. (2016) Environmental Injustice in Argentina: Struggles against Genetically Modified Soy. *Journal of Agrarian Change*. 16(4):684–692. https://doi.org/10.1111/joac.12163

Maissonave, F. and Magenta, M. (2011) China investirá US$ 879 mi em soja na BA [China will invest US$ 879 millions in soybean in Bahia]. *Folha de Sao Paulo*. 15 January.

Manrique, L. (2013) El peligro de la 'sino-dependencia' y la reprimarizacion. *Infolatam*. 7 August.

McKay, B., Alonso Fradejas, A., Brent, Z., Xu, Y., and Sauer, S. (2016a) China in Latin America: towards a new 'consensus' of resource control? *The 4th International Conference of BICAS.* Conference Paper 16.

McKay, B., Alonso-Fradejas, Brent, Z., Sauer, S. and Xu, Y. (2016b) China and Latin America: towards a new consensus of resource control? *Third World Thematics: A TWQ Journal*. 1(5): 592-611. DOI: 10.1080/23802014.2016.1344564

Mendez, A. (2018) The Asian Infrastructure Investment Bank comes knocking on Latin American's door: is anyone home? *LSE Blogs. Latin America and the Caribbean*. 27 April [Online] Available at: http://blogs.lse.ac.uk/latamcaribbean/2018/04/27/the-asian-infrastructure-investment-bank-comes-knocking-on-latin-americas-door-is-anyone-home/ [Accessed on 30 April 2018].

Meyersohn, N. (2018) China takes aim at America's soybean farmers. *CNN Money*. April 5 [Online] Available at: http://money.cnn.com/2018/04/05/news/economy/soybeans-china-trade-us/index.html [Accessed on: 30 April 2018].

Ministry of Foreign Affairs of the People's Republic of China (2016) *China's Policy Paper on Latin America and the Caribbean*. [Online] Available at: http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1418254.shtml.

Motta, R. (2016) Global Capitalism and the Nation State in the Struggles over GM Crops in Brazil. *Journal of Agrarian Change*. 16(4): 720–727. https://doi.org/10.1111/joac.12165

Myers, M., Gallagher, K. P. and Yuan, F. (2016) Chinese Finance to LAC in 2015: Doubling Down. *China-Latin America Report*. Washington: Inter-American Dialogue.

Myers, M. and Jie, G. (2015) China's agricultural investment in Latin America: a critical assessment. *China and Latin America Report.* Washington: Inter-American Dialogue.

Notinac (2016) China bloqueó las importaciones de soja argentina después que Macri frenó las represas en Santa Cruz. *Notinac*. 6 October.

OECD (2015) Trends and opportunities in trade between China and Latin America. In: *Latin American Economic Outlook 2016: Towards a New Partnership with China*. Paris: OECD Publishing. DOI: http://dx.doi.org/10.1787/9789264246218-8-en

OECD/FAO (2013) Oilseeds and oilseed products. in *Agricultural Outlook 2013*. Paris: OECD Publishing.

Oliveira, G. de L.T. (2018a) Chinese land grabs in Brazil? Sinophobia and foreign investments in Brazilian soybean agribusiness. *Globalizations*. 15(1): 114-133.

Oliveira, G. de L.T. (2018b) The Battle of the Beans: How Direct Brazil-China Soybean Trade Was Stillborn in 2004. *Journal of Latin American Geography*. 17: 113–139. https://doi.org/10.1353/lag.2018.0024

Oliveira, G. and Hecht, S. (2016) Sacred groves, sacrifice zones and soy production: globalization, intensification and neo-nature in South America. *The Journal of Peasant Studies*. 43(2): 251-285.

Oliveira, G. and Schneider, M. (2016) The Politics of Flexing Soybeans: China, Brazil and Global Agroindustrial Restructuring. *Journal of Peasant Studies.* 43(1): 167-194.

Oppenheimer, A. (2013) El fin de la chino-dependencia latinoamericana?. *El Pais*. 28 July.

Otero, G., Lapegna, P. (2016) Transgenic Crops in Latin America: Expropriation, Negative Value and the State. *Journal of Agrarian Change*. 16(4):665–674. https://doi.org/10.1111/joac.12159.

Palma, G. (1978) Dependency: A formal theory of underdevelopment or a methodology for the analysis of concrete situations of underdevelopment? *World Development.* 6(7): 881–924. https://doi.org/10.1016/0305-750X(78)90051-7

Palma, J. G. (2009) Why did the Latin American critical tradition in the social sciences become practically extinct?. in M. Blyth (ed.) *Routledge Handbook of International Political Economy (IPE): IPE as a Global Conversation*. London: Routledge. pp. 243-265.

Perez Caldentey, E. and Vernengo, M. (2017) Back to the future reloaded: Latin America's development strategy during the commodity boom. in M.E. Margulis (ed.) *The Global Political Economy of Raúl Prebisch*. Abingdon: Routledge. pp. 172-193.

Perrone, N. M. (2013) Restrictions to Foreign Acquisitions of Agricultural Land in Argentina and Brazil. *Globalizations*. 10(1): 205-209. DOI: 10.1080/14747731.2013.760946

Phélinas, P., Choumert, J. (2017) Is GM Soybean Cultivation in Argentina Sustainable?. *World Development*. 99:452–462. https://doi.org/10.1016/j.worlddev.2017.05.033

Piccone, T. (2016) The Geopolitics of China's Rise in Latin America. *Geoeconomics and Global Issues*. 2. The Brookings Institution.

Pucci, J. (2017) *Top 10 Glyphosate Exporters in China for 2016*. Agribusiness Global. February 27 [Online] Available: https://www.agribusinessglobal.com/agrichemicals/top-10-glyphosate-exporters-in-china-for-2016/ [Accessed on 28 January 2019]

Research & Markets (2018) *Research Report on China's Glyphosate Industry – 2018-2020* [Online] Available: https://www.researchandmarkets.com/research/kj7vhw/research_report?w=5 [Accessed on 28 January 2019]

Rosa, F. (2017) Temer ameaça soberania com venda de terras ao estrangeiro. *PT no Senado*. 4 April [Online] Available: https://ptnosenado.org.br/temer-quer-entregar-terras-aos-bancos-e-empresas-estrangeiras/

Schneider, M. (2014) Developing the meat grab. *Journal of Peasant Studies*. 41(4):613–633. https://doi.org/10.1080/03066150.2014.918959

Schneider, M. (2017) Dragon Head Enterprises and the State of Agribusiness in China. *Journal of Agrarian Change*. 17(1)3–21. doi: 10.1111/joac.12151.

Schneider, M. with Sharma, S. (2014) *China's Pork Miracle? Agribusiness and Development in China's Pork Industry*. Global Meat Complex: the China Series. Minnesota: Institute for Agriculture and Trade Policy.

Sengupta, S. (2018) What Jair Bolsonaro's victory could mean for the Amazon. and the Planet. *The New York Times*. 17 October.

Sevares, J. (2007) Cooperación Sur-Sur o dependencia a la vieja usanza: América Latina en el comercio internacional [South-South Cooperation or dependency int he old way: Latin America in the international trade]. *Nueva Sociedad*. 207: 11-22.

Sheppard, D. (2016) China's COFCO buys remainder of grain trader Nidera. *Financial Times*. 23 August.

Slipak, A. M. (2014) América Latina y China: ¿cooperación Sur-Sur o «Consenso de Beijing»?. *Nueva Sociedad* 250: 102-113.

Stauffer, C. (2014) Big Chinese soy project in Brazil: so far. just an empty field. *Reuters*. 4 April. [Online] Available: http://www.reuters.com/article/brazil-china-soybeans-idUSL1N0LT1ZI20140404.

Svampa M. (2013) Resource extractivism and alternatives: Latin American perspectives on development. in M. Lang and D. Mokrani (eds) *Beyond Development: Alternative Visions from Latin America***.** Quito: Transnational Institute, Rosa Luxembourg Foundation, pp. 117-144.

Syngenta (2017) Approval of delisting of Syngenta shares. *Media releases* [Online] Available at: https://www.syngenta.com/media/media-releases/yr-2017/27-10-2017. [Accessed on 30 April 2018].

Turzi, M. (2017) The Agropolis: South America, China, and the soybean connection. In: M. Myers and C. Wise (eds.). *The Political Economy of China-Latin America Relations in the New Millennium Brave New World*. New York and London: Routledge.

USDA ERS (2017) United States Department of Agriculture, Economic Research Service [Online]. (URL http://ers.usda.gov/topics/crops/soybeans-oil-crops.aspx#.UxZHaXmrBcQ).

ValorSoja (2013) Otro factor bajista para el maíz: China rechaza el ingreso de un embarque con un evento no aprobado por Syngenta. *ValorSoja.com*. 18 November.

Veltmeyer, H. & Petras, J. (2014) *The New Extractivism. A Post-Neoliberal Development Model or Imperialism of the Twenty-First Century?*. London. New York: Zed Books.

Villafañe, L. (2018) Uno por uno, todos los acuerdos firmados con China [One by one, the agreements sigend with China]. *El Cronista*. 3 December.

Wen, D.J. (2008) How to Feed China. A tale of two paradigms. *Third World Network* 212.

Wilkinson, J., Wesz Junior, V. J. & Lopane, A. R. M. (2016) Brazil and China: the agribusiness connection in the Southern Cone context. *Third World Thematics: A TWQ Journal*. 1. 726-745.

Wise, C. and Quiliconi, C. (2007) China's surge in Latin American markets: policy challenges and responses. *Politics & Policy* 35(3): 410-438.

World Bank (2017) *World Developmpent Indicators.* [Online] Available: https://data.worldbank.org/data-catalog/world-development-indicators.

WWF (2014) *The Growth of Soy: Impacts and Solutions*. Gland: WWF International.

Zha, D. & Zhang, H. (2013) Food in China's international relations. *Pacific Review* 26(5): 455-479.

Zhan, S. (2017) Riding on self-sufficiency: Grain policy and the rise of agrarian capital in China. *Journal of Rural Studies*. 54. 151–161. https://doi.org/10.1016/j.jrurstud.2017.06.012

Zhang, H., Cheng, G. (2016) China's food security strategy reform: An emerging global agricultural policy. in: Wu, F. and Zhang, H. *China's Global Quest for Resources: Energy, Food and Water*. Abingdon. Oxon; New York. N.Y.: Routledge. pp. 23–41. https://doi.org/10.4324/9781315672564

Zhou, L. (2015) Competition between agricultural enterprises and small farmers - Talking about Soy Crisis. Jingji Daokan (EconomicHerald), 26 January 2015. http://www.shiwuzq.com/portal.php?mod=view&aid=459

NOTES

1. This article builds on a research project on the political economy of soybean production and trade in South America. While the scope of the project limited the possibility of extended fieldwork in China, the interviews conducted in Argentina, Brazil and Paraguay provide insights into the role of China and Chinese companies in the soybean value chain from the perspective of actors in South America.
2. These impacts have been conceptualised by several authors as inherent to the new model of accumulation dominant in the region, termed neo-extractivism (see Veltmeyer and Petras, 2014; Gudynas, 2009). This model is marked by the resource-led development – and resource-dependency – that the region has adopted. Neo-extractivist analyses focus more on the role of the Latin American state in enhancing or preventing the expansion of this model, while dependency theory – the theoretical framework this article focuses on – allows a study of the global political economy dynamics that 'lock' global south countries in relations of dependency.
3. Interview at GV AGRO, Sao Paulo, 2014. For a thorough and complete account of this process, please see Motta, 2016.
4. Even if GM seeds were not officially approved by the Brazilian and Paraguayan government until later, GM varieties of soybean had been growing in these countries. This was due to contraband of these seeds from Argentina, where the absence of royalty payments made easier for farmers to sell what was known as the 'white bag', an additional bag of seeds from the harvest to be used as seed input for the following season (see Gras and Hernández, 2016; Ezquerro-Cañete, 2016).
5. For a detailed ethnographic account of the Battle of the Beans see Oliveira, 2018b.
6. Interview at Molinos Rio de la Plata, Argentine crushing company, in Buenos Aires, October 2014; Interview at Union de Gremios de la Production, union of agricultural producers of Paraguay, in Asuncion, October 2014; Interview at Brazilian Association of Vegetable Oils Industries, in São Paulo, November 2014.
7. Interview at Bolsa de Cereales of Buenos Aires, Buenos Aires, 2014.

8. One of the problematic varieties belonged to Syngenta, so the recent acquisition of this company by a Chinese corporation might change some of these dynamics in the future.
9. Interview at Association of Grains and Oilseed Traders of Paraguay, Asuncion, 2014.
10. Interview at Argentine Council for International Relations, Buenos Aires, 2014.